INCH-POUND]
A-A-50574
February 28, 1997
SUPERSEDING
T-E-509C
December 5, 1986

COMMERCIAL ITEM DESCRIPTION

ENAMEL, ODORLESS, ALKYD, INTERIOR, SEMIGLOSS, WHITE AND TINTS

The General Services Administration has authorized the use of this commercial item description, for all federal agencies.

1. **SCOPE.** This commercial item description (CID) covers odorless, alkyd, interior semigloss enamel, non-lead, in whites and tints. Two of the three classes are representative of materials to be used in specified areas, when air quality regulations are applicable. This enamel is intended for general interior use on walls and woodwork where an odorless semigloss enamel with good washability is required. It is particularly useful in hospitals, laundries, kitchens, and bathrooms, where the maintenance of sanitary conditions is important. It may be used as a decorative coating on properly primed walls and ceilings of wood, plaster, wallboard, and similar surfaces, as well as on wood trim and metal. An odorless primer, TT-E-545, may be used as an undercoat for application to wood or metal.

2. **CLASSIFICATION.** The enamel shall be of the following types and classes:

Type I - Whites and tints (pastel)
Type II - High-hiding white, suitable for use as is, or as a tint base

Class 1 - Volatile organic compounds (VOC) limited to 250 grams per liter
Class 2 - Not photochemically reactive
Class 3 - For use in areas without applicable air quality regulations

Beneficial comments, recommendations, additions, deletions, clarifications, etc. and any data which may improve this document should be sent to: Commanding Officer (Code 15E2), Naval Construction Battalion Center, 1000 23rd Avenue, Port Hueneme, CA 93043-4301, by using the Standardization Document Improvement Proposal (DD Form 1426) appearing at the end of this document or by letter.

AMSC N/A FSC 8010

3. **SALIENT CHARACTERISTICS.**

3.1 General. The coating shall be a long-oil alkyd paint, reducible in mineral spirits, and have properties described herein.

3.2 Composition.

3.2.1 Nonvolatile vehicle. The nonvolatile vehicle shall be a pure soya drying-oil alkyd, as specified in Table I.

3.2.2. Volatile vehicle.

3.2.2.1. Class 1. The VOC content shall be a maximum of 250 grams per liter (2.1 pounds per gallon lb/gal). Test in accordance with ASTM D 3960 and calculate as grams of VOC per liter of coating less water and exempt solvents.

3.2.2.2 Class 2. The composition of the volatile vehicle shall allow the coating to not be photochemically reactive as defined by 35 Ill. Adm. Code 211.122 and 215.561, for the intended use.

3.3 Enamel. The enamel shall conform to the requirements of Table I when tested as specified.

TABLE I - Enamel

Characteristics	Requirements			Test Methods		
	Min.	Max.	Paragh.	ASTM	FTMS 141	Paragh.
Analysis						
Nonvolatile vehicle						
Mass percent of vehicle	35.0	-	-	D2698	-	-
Identification		-	3.2.1	D2245	-	-
Phthalic anhydride, mass percent	25.0	28.0	-	D563	-	-
Lead, mass percent of nonvolatile		0.06	3.6.1	D3335	-	-
total solids % by volume	60.0	-		D2697	-	-
Water, mass percent		0.5	-	D4017	-	-
Properties						
Density, Kg/L (lb/gal)	1.2(10)	-		D1475	-	

Coarse particles and skins, mass percent of enamel	-	0.10	-	-	4092	-
Fineness of dispersion, Hegman Units	6.0	-	-	D1849	-	-
Consistency, Krebs units	75.0	100.0		-	-	-
					-	-
Application						
Dry-hard time, hours	-	12	-	-	4061	-
Appearance of Dry Film						
Daylight 45°, 0° directional reflectance, type II	90	-	-	E1347	-	-
Contrast ratio at 13.25 m^2/L (540 ft^2/gal)						
Reflectance 82 and above	0.95	-		-	4121	-
76 - 81	0.96	-			Proc B,	
72 - 75	0.97	-			Meth B	
68 - 71	0.98	-				
61 - 67	0.99	-				
60 and below	1.00	-				
60° specular gloss, after 168 hours	40.0	70.0	-	-	6101	-
Yellowness index difference reflectances 80 and above	-	0.10	-	-	6131, 6132	-
Color, type I	-	-	3.3.6	D1729	-	-
Pigment compatibility, type II	-	-	3.3.6	-	-	4.4.3
Performance of Dry Film						
Washability						
Reflectance, percent of initial	98.0	-	-	-	6141	-
60° gloss, percent of initial	70.0	-	-	-	6141	-
Flexibility	-	-	3.3.7	-	6221	4.4.4
Knife test	-	-	3.3.8	-	6304	4.4.5
Recoating	-	-	3.3.9	-	-	4.4.6

3.3.1 Odor. There shall be no residual odor after 24 hours air drying.

3.3.2 Condition in container. The enamel in a freshly opened container shall be free from grit, seeds, skins, lumps, abnormal thickening, or livering, and shall show no more pigment settling or caking than can be readily redispersed with a paddle to a homogeneous state.

3.3.3 Storage stability.

3.3.3.1. Skinning. A three-quarter filled, closed container of the enamel, shall not skin within 48 hours when stored at room temperature from 21 to 32 degrees Centigrade (°C) (70 to 90° Fahrenheit (F)).

3.3.3.2 Accelerated aging. The enamel, stored in a full, tightly closed container for 30 days at 51.7 + 1.1°C (125 + 2°F), shall show no curdling, gelling, skinning, or hard caking, and shall meet the fineness of dispersion, consistency, brushing, and spraying requirements of Table I.

3.3.4 Viscosity. The viscosity shall be the manufacturer's standard for the product provided.

3.3.5. Application properties.

3.3.5.1 Brushing properties. The enamel shall brush without drag, and shall dry to a smooth, uniform film, free from seeds, runs, and brush marks.

3.3.5.2 Spraying properties. The enamel shall spray easily without running or sagging, and shall dry to a smooth, uniform film, free from seeding, dusting, pigment float, haze, or orange peel.

3.3.6 Color, Type I and pigment compatibility, Type II. The enamel at complete hiding shall be a critical match to the color specified (see 6.2). There shall be no evidence of incompatibility of the tint base with the tint concentrate. When tested, there shall be uniformity of color and gloss of the dried film. Test pigment compatibility by the procedure specified in the compatibility test of TT-T-390, with the following exceptions: Use A-A-50574 as the base material, and material conforming to TT-T-390 color 2a as the tinting concentrate. Examine the dried film for uniformity of color and gloss, comparing the rubbed-up area against the unrubbed-up area.

3.3.7 Flexibility. The enamel film shall show no cracking or flaking when tested as specified in FED-STD-141 method 6221. Apply the paint at a dry film thickness of 37 ± 2um (0.0015 ± 0.0001 inch) to a 75 by 125 mm (3 by 5 inch) tinplate panel conforming to method 2012. Air-dry the panel 2 hours, then bake 24 hours at 105 ± 2 °C (221 ± 3.6°F). Use a 3.2 mm (1/8 inch) diameter mandrel.

3.3.8 Knife test. The enamel film shall ribbon or curl from the panel when tested, and the cut shall show beveled edges.

3.3.9 Recoating. The enamel film shall show no lifting, softening, or other film irregularities when tested.

3.4 Material Safety Data Sheets (MSDS). MSDS shall be submitted in accordance with FED-STD-313.

3.5 Air quality regulation marking, classes 1 and 2. Each unit container and shipping container marking shall include the mass of VOC in grams per liter and pounds per gallon of coating (Class 1), or if not photochemically reactive (Class 2), and shall also state that the material is to be used without thinning under normal environmental and application conditions.

3.6 Environmental Requirement.

3.6.1 Prohibited materials. The manufacturer shall certify that the nonvolatile portion of the coating contains less than 0.06 percent lead, chromium, toxic heavy metals, halogenated solvents, benzene, ethylbenzene, xylene (all isomers), 2-ethoxyethanol and 2 methoxythanol and their corresponding acetates.

4. REGULATORY REQUIREMENTS.

4.1 Materials. The offeror/contractor is encouraged to use recovered materials to the maximum extent practicable, in accordance with paragraph 23.403 of the Federal Acquisition Regulation (FAR). Unless otherwise specified herein, all equipment, material, and articles incorporated in the work covered by this CID are to be new. They are to be chemically formulated using materials produced from recovered materials to the maximum extent possible without jeopardizing the intended use. The term "recovered materials" means materials which have been collected or recovered from solid or liquid waste and reprocessed to become a source of raw materials, as opposed to virgin raw materials. Unless otherwise specified, none of the above shall be interpreted to mean that the use of used or rebuilt products are allowed under this CID.

5. QUALITY ASSURANCE PROVISIONS.

5.1 Product Conformance. The products provided shall meet the salient characteristics of this commercial item description, conform to the producer's own drawings, specifications, standards, and quality assurance practices, and be the same product offered for sale in the commercial market. The government reserves the right to require proof of such conformance.

6. **PACKAGING.** Preservation, packing, and marking shall be as specified in the contract or order.

7. NOTES.

7.1 Part Identification Number (PIN). The following part identification numbering procedure is for government purposes and does not constitute a requirement for the contractor. The PIN used for units acquired to this description will be assigned as follows:

AA50574 - X

Size P = 5 gallon pail
D = 55 gallon drum

Commercial Item Description Number

7.2 Ordering data. Acquisition documents should specify the following.

a. Title, number, and date of this specification.
b. Type and class required.
c. If proof of conformance to CID is required prior to first delivery.
d. Color, when type I is required.
e. Quantity required.

7.3 Source of documents.

7.3.1 ASTM Standards are available from American Society for Testing and Materials, 100 Barr Harbor Drive, West Conshohocken, PA 19428-2959

7.3.2. The Federal Acquisition Regulation (FAR) may be obtained from the Superintendent of Documents, U.S. Government Printing Office, Washington, DC 20402.

7.3.3 Steel Structures Painting Council (SSPC) documents may be obtained at SSPC, 4400 Fifth Avenue, Pittsburgh, PA 15213-2683.

7.4 Subject term (key word) listing.

Aging, accelerated
Air quality regulation marking
Alkyd
Enamel
Interior
Odorless
Photo chemically reactive
Solids volume
Tint base
Viscometer, ICI cone/plate
Volatile organic compounds

MILITARY CUSTODIANS:

Custodians
Army - ME
Navy - YD1
Air Force - 84

Review Activities
Army - MD, MR,CE
Navy - MC

CIVIL AGENCY COORDINATING ACTIVITY:

GSA - FSS

Preparing Activity:

Navy - YD1

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